

REMARKS

I. Status Summary

With this Amendment, claims 1-20 are pending in the present application. Claims 1, 4, 5, and 11 have been amended.

II. Claim Rejections - 35 U.S.C. §102

Claims 1 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,855,132 to Dugan ("Dugan").

Applicants note that it is well settled that for a cited reference to qualify as prior art under 35 U.S.C. §102, each element of the claimed subject matter must be disclosed within the reference. See Hybritec, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 231 U.S.P.Q. 81 (Fed. Cir. 1986) (stating that "[i]t is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention"). Accordingly, applicants respectfully submit that Dugan does not disclose every element of claim 1 and therefore cannot anticipate this claim under 35 U.S.C. §102(b).

Summary of the Rejected Independent Claim Under 35 U.S.C. §102(b)

Independent claim 1 recites a combination of a roof gutter of a type for collecting rain and channeling the rain to a downspout or the like and a porous filler material comprising fibers, foam or combinations thereof. The overall density of the porous filler material is between about 10% and 70% by volume fraction and the pores are elongated and generally extend in a lengthwise direction of the porous filler material. The porous filler material is positioned in the roof gutter so as to substantially fill the roof gutter and such that the pores generally extend in the rain flow direction. The rainwater from the roof will readily pass through the porous filler material and be channeled away, and leaves, pine straw and other similar debris will be prevented from entering the roof gutter.

Arguments Against the Rejection of the Claims Based on 35 U.S.C. §102

Applicants respectfully submit that Dugan does not anticipate independent claim 1. Dugan discloses a gutter that is fitted with a section of porous foam **2** which corresponds in shape to the interior gutter walls **5** and occupies the entire volume defined by the gutter walls **5**. In an alternative embodiment, Dugan discloses a porous foam **2** that occupies the volume defined by the gutter walls **5** except for an open passageway **8** at the bottom wall **5** of the gutter that forms a channel along which the water may flow. (See Col. 1, l. 56 - Col. 2, l. 20.) The foam is porous and can be, for example, polyurethane. (See Col. 2, ll. 21-23.)

Dugan does not disclose that the pores in the foam **2** are elongated and generally extend in the lengthwise direction of the foam **2**. Also, Dugan does not disclose that the pores generally extend in the rain flow direction. In contrast, independent claim 1 specifically recites that the pores are elongated and generally extend in a lengthwise direction of the porous filler material. Independent claim 1 also recites that the pores generally extend in the rain flow direction. While Dugan does disclose the foam **2** should be porous, it does not disclose that the pores formed therein should be elongated. Further, Dugan does not disclose that pores within the foam should extend in any direction, let alone extend in the lengthwise direction of the foam or in a rain flow direction within the gutter. These features result in advantageous enhancement of fluid flow along the gutter. Therefore, applicants respectfully submit that Dugan does not anticipate independent claim 1.

Accordingly, applicants respectfully request that the rejection of independent claim 1 under 35 U.S.C. §102(b) be withdrawn and claim 1 allowed at this time.

III. Claims Rejections - 35 U.S.C. §103

Claims 2-6, 9 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dugan as applied to claim 1 and further in view of U.S. Patent No. 5,776,567 to Schilling et al. ("Schilling"). Claims 7 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dugan as applied to claim 1 in view of

Schilling as applied to claims 2-6, 9, and 10 and further in view of U.S. Patent No. 6,884,837 to Kohlhammer et al. ("Kohlhammer"). Further, claims 11-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dugan as applied to claim 1 in view of Schilling as applied to claims 2-6, 9, and 10 and further in view of Kohlhammer as applied to claims 7-8.

To establish a *prima facie* case of obviousness, the Examiner must meet with the following criteria: MPEP §2143. First, there must be some suggestion or motivation either in the reference itself or the knowledge generally available to one of ordinary skill in the art, to modify the reference. Id. Second, there must be a reasonable expectation of success. Id. Third, the prior art reference must teach or suggest all the claim elements. Id. In view of all the factual information, a determination must then be made as to whether the claimed subject matter as a whole would have been obvious at the time to that person. See MPEP §2142. Impermissible hindsight must be avoided and a legal conclusion of obviousness must be reached on the basis of facts gleaned from the prior art. Id.

Summary of the Rejected Independent Claims Based on 35 U.S.C. §103

Independent claim 11 recites a method of preventing leaves, pine straw and similar debris from entering a roof gutter while allowing rainwater and the like to readily enter the roof gutter and be channeled away to a downspout or the like. The method includes providing a roof gutter adjacent the roof of a residential or commercial building. A porous filler material comprising fiber, foam, or combinations thereof is inserted into the gutter so as to substantially fill the gutter with porous filler material. The porous filler material has an overall density between about 10% and 70% by volume fraction. The pores thereof are elongated and generally extend lengthwise in the direction of the porous filler material. The pores also generally extend in the rain flow direction within the gutter. Rainwater from the roof will readily pass through the porous filler material and be channeled away. The leaves, pine straw and similar debris will be prevented from entering the roof gutter.

Arguments Against the Rejection of the Claims Based on 35 U.S.C. §103(a)

Applicants respectfully submit that Dugan in view of Schilling does not render obvious claims 2-6, 9, and 10, which depend from claim 1 discussed above. Further, Dugan in view of Schilling and further in view of Kohlhammer does not render obvious independent claim 11 and the claims that depend therefrom or claims 7 and 8, which depend from claim 1 discussed above.

As discussed above, Dugan discloses a gutter fitted with sections of porous foam **2** that occupy the entire volume defined by the gutter or occupy the gutter except for an open passageway **8** left between the foam **2** and the bottom wall **5** of the gutter. While Dugan states that the foam **2** must be porous, it does not disclose, teach, or suggest that the pores should be elongated and generally extend lengthwise in the direction of the foam **2** or in the rain flow direction. Dugan is silent as to the shape of pores formed in the foam **2**. Thus, it does not disclose, teach, or suggest that these pores are elongated. Also, Dugan is silent as to the direction these pores may extend. Moreover, since Dugan does not disclose, teach, or suggest that the pores are elongated, it is not clear that the pores in the foam **2** of Dugan would "extend" in a certain direction at all. Therefore, one of ordinary skill in the art would not look to Dugan to teach that the pores should be elongated or that the pores should generally extend lengthwise in a direction of the porous filler material and extend in the rain flow direction within the gutter.

Similarly, Schilling does not disclose, teach, or suggest that a porous filler material should have pores that are elongated and generally extending lengthwise in the direction of the porous filler material and in the direction of the rain flow within the gutter. Schilling discloses a multi-layered filter 100 for separating solid and liquid wastes. (See Col. 1, II. 53-56.) The filter 100 has a top layer **105** that includes a porous filter cloth **105** made of a dense woven or nonwoven material. (See Col. 3, II. 46-55.) Below the filter cloth **105**, a first netting **104** is provided with crossing, overlapping parallel strands that form large interstices therebetween. (See Col. 1, I. 64 - Col. 2, I. 12; Col. 3, II. 38-46.) Below this first netting **104**, a layer **103** is

provided. The layer 103 comprises a fibrous mat, or a nonwoven consisting of sub-layers of a polymeric fibrous mat sandwiched between two interwoven layers of polymeric netting. (See Col. 3, II. 6-37.) The bottom layer 102 is a second netting 102 that includes two sub-layers 202, 204 of parallel strands 206, 208. The parallel strands 206 of one sub-layer 202 cross and overlap above the parallel strands 208 of the other sub-layer 204 to form large interstices 210. As shown in Figure 2 in Schilling, The parallel strands 206 of one sub-layer 206 and the parallel strands 208 of the other sub-layer 204 are equally spaced apart (about $\frac{1}{4}$ of an inch apart) to form square interstices 210. (See Col. 2, I. 54 - Col. 3, I. 5.) Since equally spaced parallel strands 206, 208 in either direction form the large interstices 210, all sides of the interstices 210 are equal. As shown in Figure 2, the bottom sub-layer 204 forms channels between its strands 208, which direct the flow of liquid.

In use, solid and liquid wastes come in contact with the filter 100 with liquid passing downward through the porous cloth 105, the first netting 104 and the layer 103 of a fibrous mat or fibrous nonwoven. The liquid then passes through the large interstices 210 of the second bottom netting 102 before being directed by the channels of formed by the parallel strands 208 spaced apart (at about $\frac{1}{4}$ of an inch) therein. (See Col. 1, I. 64 - Col. 2, I. 12.)

Schilling is silent as to the shape of the pores in the porous cloth 105 or the pores formed in the fibrous mat or fibrous nonwoven of the layer 103. Thus, Schilling does not disclose, teach, or suggest that the pores in the porous cloth 105 or the pores in the layer 103 are elongated. Similarly, Schilling does not disclose, teach, or suggest that the pores in the porous cloth 105 or the pores in the layer 103 extend in a lengthwise direction in the filter 100 or in the direction of the rain flow within a gutter.

Schilling also does not disclose, teach, or suggest that the large interstices within the netting layers 104 and 102 are elongated and generally extending lengthwise in the direction of the filter 100 and in the direction of the liquid flow within a gutter. First, applicants contend that the large interstices within the netting layers

104 and **102** are too large (at least about $\frac{1}{4}$ of an inch across) to be classified as "pores." Second, even if such large interstices did qualify as pores, the equal spacing of the parallel strands **206**, **208** of the sub-layers **202**, **204** form interstice shapes that are not elongated and that do not generally extend in the direction of the rain flow. The interstices of layers **102** and **104** are, for example, square or diamond shaped having no elongation or in the shape of an angled parallelogram that has one longer axis than the other. However, even if the large interstices are in the shape of an angled parallelogram, the longer axis of the parallelogram would extend at an angle to the channel formed between its parallel strands **208** as shown in Figure 2, which directs the flow of liquid in the filter. Since the longer axis of the parallelogram would extend at an angle to the channels that direct the liquid flow, the layers **102** and **104** of Schilling teach away from any elongation of the large interstices **210** extending in the direction of liquid flow. For at least the above reasons, Schilling does not disclose, teach, or suggest that a porous filler material should have pores that are elongated and generally extending lengthwise in the direction of the porous filler material and in the direction of the rain flow within the gutter.

Further, Kohlhammer does not disclose, teach or suggest a porous filler material having pores being elongated and generally extending lengthwise in a direction of the porous filler material and in the rain flow direction within the gutter. Kohlhammer discloses cross-linkable polymer compositions that are used as binders for consolidating and for laminating fiber materials. Kohlhammer does not disclose, teach, or suggest the forming of a porous filler material that has elongated pores therein that extend in the lengthwise direction. Further, Kohlhammer does not disclose, teach, or suggest that such pores should extend in a direction of rain flow within a gutter.

Since Dugan, Schilling and Kohlhammer, either singly or in combination, do not disclose, teach, or suggest applicants' advantageous fluid flow features comprising a porous filler material having pores therein that are elongated and generally extend lengthwise in the direction of the porous material and that such

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pores should extend in the rain flow direction within a gutter, these references do not render obvious claims 2-20.

Accordingly, applicants respectfully submit that the rejection of claims 2-21 under 35 U.S.C. 103(a) be withdrawn and claims 2-21 allowed at this time.

CONCLUSION

In light of the above amendments and remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

DEPOSIT ACCOUNT

The Commissioner is hereby authorized to charge any fees associated with the filing of this correspondence to Deposit Account No. 50-0426.

Respectfully submitted,

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